



(i.e., 100 ml/min), 50 ml of effluent is collected into a 50 ml graduated conical centrifuge tube for assay of MS-2 bacteriophage. One ml of influent and effluent is needed to perform an assay of MS2 bacteriophage. Seeded influent water is pumped at the prescribed flow rate (i.e., 100 ml/min) through the test units until the next sampling time point. An adjacent 30 gallon carboy is filled with seeded MS-2 bacteriophages as previously described. The Pharmed tubing used to draw the influent from the carboy is transferred to the adjacent carboy when only 10 L of influent remain in the original 30 gallon carboy.

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Effluent is then collected at each sampling time point (i.e., 1, 6 and 10 hours) at the volumes previously described to assay the MS-2 bacteriophages according to Section IV-B. As a result, a VRI of 99.9999% is obtained at 100 ml/min at 10 hours. The test units are un-clamped from the testing stand and disconnected from the Pharmed tubing after the last sampling time point is reached (i.e., 10 hours). The test units are then autoclaved after the analysis is completed.--

#### IN THE CLAIMS

Please cancel claims 1 to 11 without prejudice.

Please amend claims 12, 13, and 14 as follows:

12. (Amended) An article of manufacture, comprising:
- (a) a filter, including:
    - i) housing;
    - ii) a filter core disposed within said filter housing consisting essentially of particles selected from the group of activated carbon particles and a mixture of activated carbon particles and non-carbonaceous particles;
    - iii) wherein said carbon particles have an interparticle spacing whereby the filter has a VRI of at least about 99.99% at a flow rate of 100mL/min. at 1 hour at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter; and
  - (b) information which communicates to a user that the filter may be used to remove nano-sized pathogens from a liquid.

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13. (Amended) The article of claim 12, wherein said filter has a VRI of at least about 99.999% at a flow rate of 100 ml/min. at 6 hours at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.
14. (Amended) The article of claim 12, wherein said filter has a VRI of at least about 99.9999% at a flow rate of 100 ml/min. at 1 hour at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.
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Please add new claims 17 to 29 as follows:

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- 17. (New) A filter for removing viruses from water, comprising:  
a filter housing;  
a filter core disposed within said filter housing consisting essentially of particles selected from the group of activated carbon particles and non-carbonaceous particles; and  
wherein said carbon particles and said non-carbonaceous particles are arranged to have an interparticle spacing, whereby the filter has a VRI of at least about 99.99% at a flow rate of 100 ml/min. at 1 hour at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.--
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- 18. (New) The filter of claim 17, wherein the filter core has a bulk density between about  $0.1 \text{ g/cm}^3$  and about  $1.2 \text{ g/cm}^3$  and the particle size of said carbon particles and said non-carbonaceous particles is between about  $0.1 \text{ }\mu\text{m}$  and about  $5,000 \text{ }\mu\text{m}$ .--
- 19. (New) The filter of claim 18, wherein the filter core has a bulk density between about  $0.4 \text{ g/cm}^3$  and about  $1 \text{ g/cm}^3$  and the particle size of said carbon particles and said non-carbonaceous particles is between about  $4 \text{ }\mu\text{m}$  and about  $275 \text{ }\mu\text{m}$ .--
- 20. (New) The filter of claim 17, whereby the filter has a VRI of at least about 99.999% at a flow rate of 100 ml/min. at 6 hours at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.--
- 21. (New) The filter of claim 17, wherein the filter has a VRI of at least about 99.9999% at a flow rate of 100 ml/min at 1 hour at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.--

--22. (New) The filter of claim 17, wherein said particles are provided in the form of granules.--

--23. (New) The filter of claim 17, wherein said particles are provided in the form of pellets.--

--24. (New) A method of making a filter for removing viruses from water, comprising:

providing activated carbon particles;

compressing said activated carbon particles into a filter core to achieve a predetermined interparticle spacing; and

wherein the filter has a VRI of at least about 99.99% at a flow rate of 100 ml/min. at 1 hour at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.

--25. (New) The method of claim 24, wherein said activated carbon particles are compressed to a bulk density between about  $0.1 \text{ g/cm}^3$  and about  $1.2 \text{ g/cm}^3$ .--

--26. (New) The filter of claim 24, wherein said activated carbon particles are compressed to a bulk density between about  $0.4 \text{ g/cm}^3$  and about  $1 \text{ g/cm}^3$ .--

--27. (New) The filter of claim 24, further comprising non-carbonaceous particles.--

--28. (New) The filter of claim 24, wherein the filter has a VRI of at least about 99.9999% at a flow rate of 100 ml/min. at 6 hours at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.--

--29. (New) The filter of claim 24, wherein the filter has a VRI of at least about 99.99999% at a flow rate of 100 ml/min. at 1 hour at an influent concentration of  $5 \times 10^8$  MS-2 bacteriophages per liter.--

--30. (New) The filter of claim 24, wherein said activated carbon particles are provided in the form of granules.--

--31. (New) The filter of claim 24, wherein said activated carbon particles are provided in the form of pellets.--

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